

CLAIMS

1

5 1. Ballistic protective armour (12), in particular as a component of ballistic protective clothing or head coverings, comprising a textile laminate (14) made from a number of textile layers (16....34) laminated together, **characterised** by a number of wire or thread binders (40,52) which pass through the textile laminate (14) in the layering direction (Z) of textile layers (16....34).

10

2. The ballistic protective armour of claim 1, **characterised in that** binders (40,52) are provided with anchoring devices to anchor them in the textile laminate (14).

15

3. The ballistic protective armour of claim 1 or 2, **characterised in that** the binders (40,52) are elastic.

20

4. The ballistic protective armour of one of claims 1 to 3, **characterised in that** binders (40,52) are made from metal or a synthetic material.

25

5. The ballistic protective armour of one of the preceding claims, **characterised in that** binders (52) are contrived as reinforcing threads (54) which are each formed from a single fibre or from a number of fibres.

30

6. The ballistic protective armour of claim 5, **characterised in that** reinforcing threads (54) are made from a yarn that is spun or drilled from a number of fibres.

35

7. The ballistic protective armour of claims 5 or 6, **characterised in that** reinforcing threads (54) are made from aramid, polyethylene or carbon fibre.

1 8. The ballistic protective armour of one of claims 5 to 7, **characterised in that** reinforcing threads (54) are connected with each other to form endless threads which pass through the textile laminate (14) in a meandering fashion.

5

9. The ballistic protective armour of claim 8, **characterised in that** running on opposite surfaces of textile laminate (14) there are endless threads, of which each endless thread comprises a number of loops
10 projecting into textile laminate (14), which are interlooped with the loops of an endless thread running along the opposite surface of textile laminate (14).

10. The ballistic protective armour of one of the preceding claims,
15 **characterised in that** the textile layers (16....34) are connected by pressing with a connection matrix which is disposed layer by layer between the individual textile layers (16....34).

20 11. The ballistic protective armour of claim 10, **characterised in that** the connection matrix is formed from an adhesive, a resin or a pressable film.

12. The ballistic protective armour of claim 10 or 11, **characterised in that**
25 the textile layers (16....34) are at least partially embedded in the connection matrix.

13. The ballistic protective armour of one of the preceding claims,
30 **characterised in that** the textile layers (16....34) are made from a synthetic material.

14. The ballistic protective armour of claim 13, **characterised in that** the
35 textile layers (16....34) are made from aramid, polyethylene or carbon fibre.

1

15. The ballistic protective armour of one of the preceding claims, **characterised in that** the textile layers (16....34) are made from fabric made of fibres or yarns.

5

16. The ballistic protective armour of one of the preceding claims, **characterised in that** the textile layers (16....34) are of differing hardnesses.

10

17. The ballistic protective armour of claim 16, **characterised in that** the differing hardnesses are obtained by using different types of fabrics or by varying the amount of resin or adhesive on textile layers (16....34).

15

18. The ballistic protective armour of claim 16 or 17, **characterised in that** the textile laminate (14), viewed from outside to inside in relation to the anticipated direction of the missile (-Z), comprises a sequence of layers of hard outer textile layers (30,32,34), soft textile layers (24,26,28) of lesser
20 hardness than the hard textile layers (30,32,34), and medium-hard inner textile layers (16,18,20,22) whose hardness lies between that of the hard textile layers (30,32,34) and that of the soft textile layers (24,26,28).

25

19. A ballistic protective helmet whose helmet shell (10,50,70) is formed by ballistic protective armour (12) according to one of the preceding claims.

30

20. A ballistic protective vest comprising hard segments or hard inserts, each formed by ballistic protective armour (12) according to one of the preceding claims 1 to 15.

35

21. The ballistic protective vest of claim 20, **characterised in that** the hard segments or hard inserts are disposed in overlapping fashion.

1

22. The ballistic protective vest of claim 21, **characterised in that** the hard segments or hard inserts are disposed on or in the protective vest such that they can be displaced relative to each other.

5

10

15

20

25

30

35